

1. A system for dispensing metered portions of substances, comprising:
 - a frame having a base plate, upright support members leading from the base plate to a pair of cross members that intersect about a frame spindle;
 - a magazine rotatable about said frame spindle, the magazine has a plurality of receiving stations that are each designed to receive an exchangeable storage container, such storage containers having a storage chamber filled with a substance;
 - a drive means for moving the magazine, in such a manner that a storage container is moved to a dispensing station in order to dispense substance into a collection container; and
 - each storage container having one or more pumps which when actuated at the dispensing station pump substance out of the storage chamber and dispense said substance into said collection container.
2. The system of Claim 1, wherein the drive means includes a stepper motor secured to a shaft that rotates a toothed wheel, said toothed wheel meshes with a toothed ring defined on the magazine.
3. The system of Claim 1, wherein each pump is releasable mounted on the magazine.
4. The system of Claim 1, wherein at least one of the pumps has a pump housing secured to the magazine and a telescopically displaceable pump component moveable in relation to said pump housing.
5. The system of Claim 4 further comprising a pump-actuating means for actuating a pump which is present at the dispensing station. (131, 132, 133)
6. The system of Claim 5, wherein the pump-actuating means includes an engagement member that engages the telescopically displaceable pump component.
7. The system of Claim 6, wherein the pump-actuating means further includes a pivoting arm secured at one end to a horizontal pin fixed in the base plate of the frame and having said engagement member at another end.

8. The system of Claim 6, wherein each pump is in communication with a downwardly directed dispensing nozzle, and the dispensing nozzle is able to move over a standing station defined to hold the collection container.

9. The system of Claim 5, wherein the pump-actuating means is designed to actuate the pump a desired number of times with a view to dispensing the desired quantity of substance, and the system further includes a means for counting the number of times such that when the pump-actuating means reaches said desired number of times, the pump-actuating means can be stopped.

10. The system of Claim 4, wherein the storage chamber of the storage container is delimited by a peripheral wall, a closure wall which is fixedly connected thereto and in which there is an opening that is capable of being in communication with the pump, and opposite the closure wall a piston that can move in a sealed manner with respect to the peripheral wall.

11. The system of Claim 1, wherein the dispensing station includes a dispensing channel that opens out at an associated dispensing nozzle.

12. The system of Claim 11, wherein the dispensing channel having an associated self-closing valve assembly for atmospherically sealing the dispensing channel.

13. A system for dispensing metered portions of colored substances for the purpose of making a hair-dye mixture, the system comprising:

a frame having a base plate, upright support members leading from the base plate to a pair of cross members that intersect about a frame spindle;

a magazine rotatable about said frame spindle, the magazine has a plurality of receiving stations that are each designed to receive a storage container having a storage chamber filled with a substance;

a drive means for moving the magazine in such a manner that one of the storage containers received in the plurality of receiving stations is moved to a dispensing station,

defining a dispensing storage container, the dispensing station includes a dispensing nozzle to dispense the substance contained in said dispensing storage container into a collection container; and

a volume detection means for detecting the volume of the substance which is presently contained in dispensing storage container.

14. The system of Claim 13, wherein each storage container has a dispensing means consisting of one or more pumps that when actuated at the dispensing station pump substance out of the storage chamber of said dispensing storage container and dispense said substance into said collection container.

15. The system of Claim 14, wherein the storage chamber of the storage container is delimited by a peripheral wall, a closure wall which is fixedly connected thereto and in which there is an opening that is capable of being in communication with the pump, and opposite the closure wall a piston that can move in a sealed manner with respect to the peripheral wall.

16. The system of Claim 15, wherein the volume detecting means is positioned on the frame of the device to continually measure a distance from the volume detecting means to the piston such that subsequent movement of the piston is registered by said volume detecting means.

17. The system of Claim 15, wherein the peripheral wall of the storage container is transparent at least over a longitudinal strip thereof, and the volume-detection means comprises an optical sensor to detect the position of the piston through the transparent peripheral wall.

18. The system of Claim 13 further comprising a computer system including a memory storage capacity for storing the volume of each of the storage containers in the magazine of the device that is detected by the volume-detection means.

19. The system of Claim 13 wherein each storage container includes a key formation on an outer portion defined thereby, the key formation is coded to relate to the substance contained in said storage container, the magazine being provided at each receiving station with a key

formation complementary to said key formation defined on the storage container such that only a storage container with the complementary key formation is able to be placed at its corresponding receiving station.

20. The system of Claim 14, wherein the dispensing station includes means for detecting a collection container, and said detecting means is in communication with said drive means to permit movement of the magazine and in communication with said dispensing means to permit dispensing of a substance upon the detection of a collection container.

21. The system of Claim 20, wherein each collection container includes a projecting lip and the dispensing station includes an insertion slot sized to receive the projecting lip and said detection means detects when the projecting lip is inserted into the insertion slot.

22. The system of Claim 14, wherein the dispensing station includes a means for stirring substances dispensed into the collection container.

23. The system of Claim 18, wherein the memory means includes storage for storing formulations and program software for controlling the magazine and dispensing means in order to dispense the appropriate substances for mixing a hair-dye in accordance to one of the formulations.

24. A system for dispensing metered portions of colored substances for the purpose of making a hair-dye mixture, the system comprising:

- a frame having a base plate, upright support members leading from the base plate to a pair of cross members that intersect about a frame spindle;

- a magazine rotatable about said frame spindle, the magazine has a plurality of receiving stations that are each designed to receive a storage container having a storage chamber filled with a substance;

- a drive means for moving the magazine in such a manner that one of the storage containers received in the plurality of receiving stations is moved to a dispensing station, defining a dispensing storage container;

a dispensing means positioned at the dispensing station for effecting the dispensing of the substance through the dispensing storage container into a collection container, the dispensing means includes a dispensing nozzle; and

a computer system having a control means to control the movement of the magazine and the dispensing of the substance, the computer system includes a wireless transmission means for data transmission between a portable actuating and the control means.

25. The system of Claim 24, wherein the computer system has efficient memory and storage means to track an amount of the substances contained in storage containers in the magazine and store the amount of the substances to indicate to a user when the amount of the substance is low.

26. The system of Claim 25, wherein the computer system has communication means to communicate over a network to a central computer and to send the indication that the amount of a substance is low to the central computer to effectuate an order of new substance.

27. A self closing valve assembly for use with a pump comprising:

a central stationary body having a free end that is delimited by an end face and having a sealing surface in the vicinity of the free end, the sealing surface extends around the periphery of the central stationary body;

an elastic annular valve body which extends around the stationary central body, the elastic annular valve body has a sealing surface on an inner periphery that bear in a sealed manner against the sealing surface of the stationary central body unless a pressure against the elastic annular valve body is greater than a predetermined pressure such that the inner periphery deforms to form a gap between the sealing surface of the stationary central body and the sealing surface of the elastic annular valve body;

a stable annular wall attached to said pump, the stable annular wall also attached to an outer circumference defined by the annular valve body, the stable annular wall is stationary with respect to the stationary central body; and

an annular insert secured to the stable annular wall includes a central axis passage that lies in line with the central stationary body and includes a first end that includes an annular groove and a second end with a plurality of passages that are in fluid communication with the

central axis passage and a plurality of webs between the plurality of passages that are secured to the central stationary body.

28. The self-closing valve of Claim 27, wherein the sealing surface of the central stationary body adjoins the end face such that the end face forms a continuous surface with an outer surface of the elastic annular valve body, said continuous surface forms part of a convex segment with a radius that is larger than a diameter of the valve body.

29. The self-closing valve of Claim 28, wherein the free end of the central stationary body is frustoconical, such that the sealing surface of the central stationary body forms a ring segment of a conical surface and such that the inner periphery of the elastic annular valve body has a corresponding conical surface.

30. The self-closing valve of Claim 29, wherein the stable annular wall includes an inwardly projecting rim to clamp the elastic annular valve body.

31. The self-closing valve of Claim 30, wherein the pump also includes:

a housing defined by a peripheral wall connected to a closure wall to define a storage chamber that stores a substance, extending from the closure wall is an annular outer wall that slidably engages the stable annular wall, the closure wall bears upon a one-way valve that permits the substance to travel from the storage chamber to the central axis passage defined by the annular insert; and

a piston opposite the closure wall that can move in a sealed manner with respect to the peripheral wall.

32. The self closing valve of Claim 31, wherein the one-way valve is formed of an elastic bellows that is secured to the closure wall at one end and secured to the annular groove of the annular insert at another end.